

CLAIMS

1. Method of hydroentangling polymer fibers to manufacture a nonwoven fabric,
5 **characterized in** that the polymer fiber, at the moment of hydroentangling, is
imparted a temperature equal to or exceeding the glass transition temperature
(T_g) of the polymer fiber and being less than the melting point of the polymer fi-
ber.
- 10 2. Method according to Claim 1, **characterized in** that the polymer fiber has an
initial modulus ≥ 50 cN/tex, at room temperature.
3. Method according to Claim 1, **characterized in** that the polymer fiber has an
initial modulus ≥ 100 cN/tex, at room temperature.
- 15 4. Method according to Claim 3, **characterized in** that the polymer fiber has an
initial modulus of 100 – 2000 cN/tex, especially 500 – 1500 cN/tex, more par-
ticularly 200 – 750 cN/tex, and even more particularly 250 – 600 cN/tex, at room
temperature.
- 20 5. Method according to one of Claims 1 – 4, **characterized in** that the temperature
is achieved with the aid of hot or superheated water.
6. Method according to one of Claims 1 – 4, **characterized in** that the temperature
25 is achieved with the aid of IR-heat.
7. Method according to one of Claims 1 – 4, **characterized in** that the temperature
is achieved with the aid of microwaves.
8. Method according to one of Claims 1 – 7, **characterized in** that the polymer fi-
30 ber has a glass transition temperature (T_g) of $\geq 20^{\circ}\text{C}$.

9. Method according to one of Claims 1 – 8, **characterized in** that the polymer fiber has a glass transition temperature (T_g) of 20 - 100°C, especially 50 - 70°C.

5 10. Method according to one of Claims 1 – 9, **characterized in** that the polymer included in the polymer fibers comprises polyester, polylactic acid, polyamide or polypropylene, or copolymers or mixtures thereof.

(11. Hydroentangled nonwoven fabric comprising polymer fibers, **characterized in**
10 that the polymer fibers in the nonwoven fabric have an initial modulus ≥ 50 cN/tex, at room temperature.

(12. Nonwoven fabric according to Claim 10, **characterized in** that the polymer
15 fibers in the nonwoven fabric have an initial modulus of 100 – 2000 cN/tex, especially 500 – 1500 cN/tex, more particularly 200 – 750 cN/tex, and even more particularly 250 – 600 cN/tex, at room temperature.

13. Nonwoven fabric according to one of Claims 10 – 11, **characterized in** that the
20 polymer fibers in the nonwoven fabric have a glass transition temperature (T_g) of $\geq 20^\circ\text{C}$.

(14. Nonwoven fabric according to Claim 12, **characterized in** that the polymer fi-
25 bers in the nonwoven fabric have a glass transition temperature (T_g) of 20 - 100°C, especially 50 - 70°C.

15. Nonwoven fabric according to one of Claims 10 – 13, **characterized in** that the
nonwoven fabric has a bulk specific volume of $\geq 8 \text{ cm}^3/\text{g}$.

30 16. Nonwoven fabric according to Claim 14, **characterized in** that the nonwoven fabric has a bulk specific volume of $8 - 15 \text{ cm}^3/\text{g}$, especially $10 - 15 \text{ cm}^3/\text{g}$.

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$\frac{A_1 A_2}{A_2}$

[illegible]